

The Environment of Learning

How school boards can help

Allergy and Environmental Health Association



Who are we?

Our goal

What AEHA can do to help

- ◆ **Provide information to members and the public**
- ◆ **Provide support and education**
 - **meetings and workshops**
- ◆ **Provide newsletters (national and local)**
 - **allergies, sensitivities, etc.**
 - **product information and sources**
 - **recommendations for healthy living**
 - **national and local activities**
- ◆ **Participate in community committees**

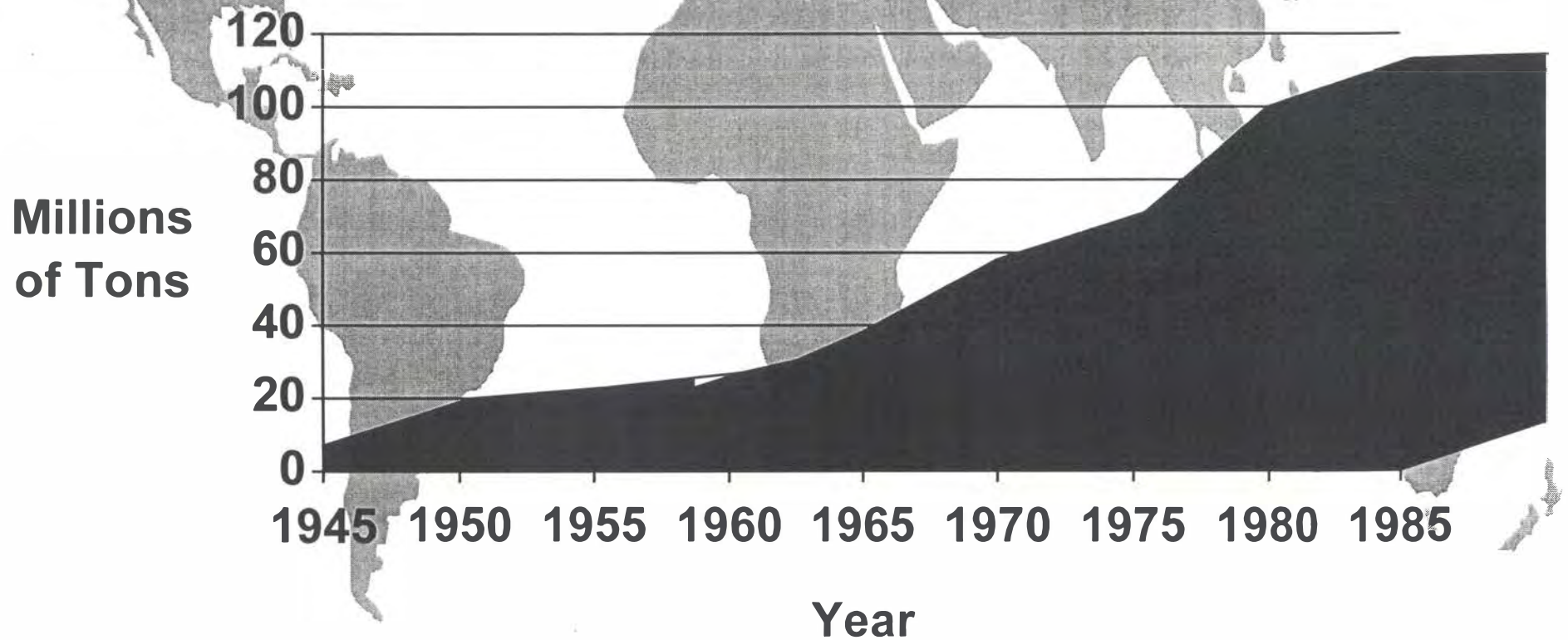
Environmental sensitivities



- ◆ **Many common things can cause adverse reactions**
- ◆ **Avoidance is the best treatment**

Chemical production

United States 1945 - 1985



Total load / Body burden

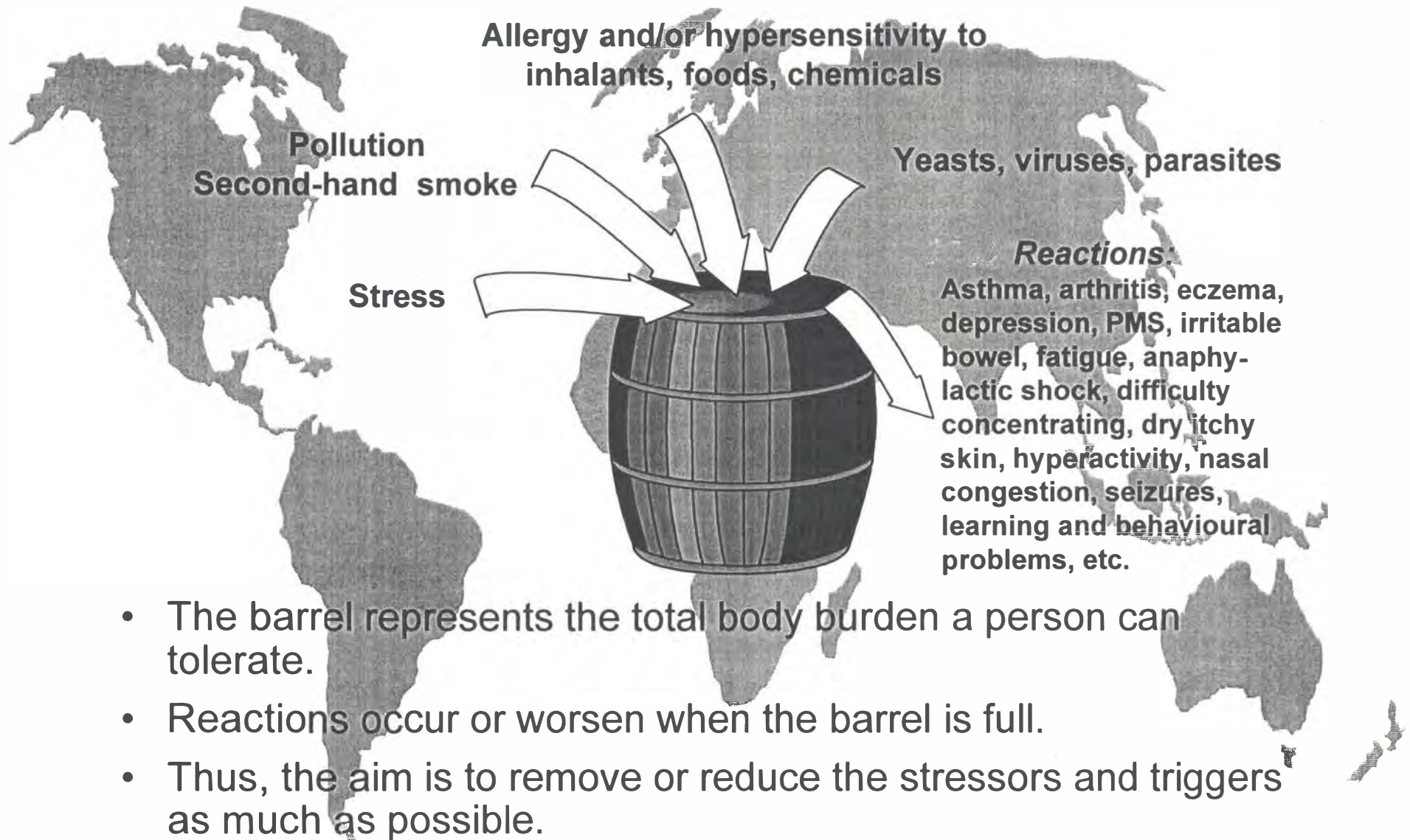


“... the patient’s total pollutant load ...[from] whatever source (usually from air, food and water or surroundings).”

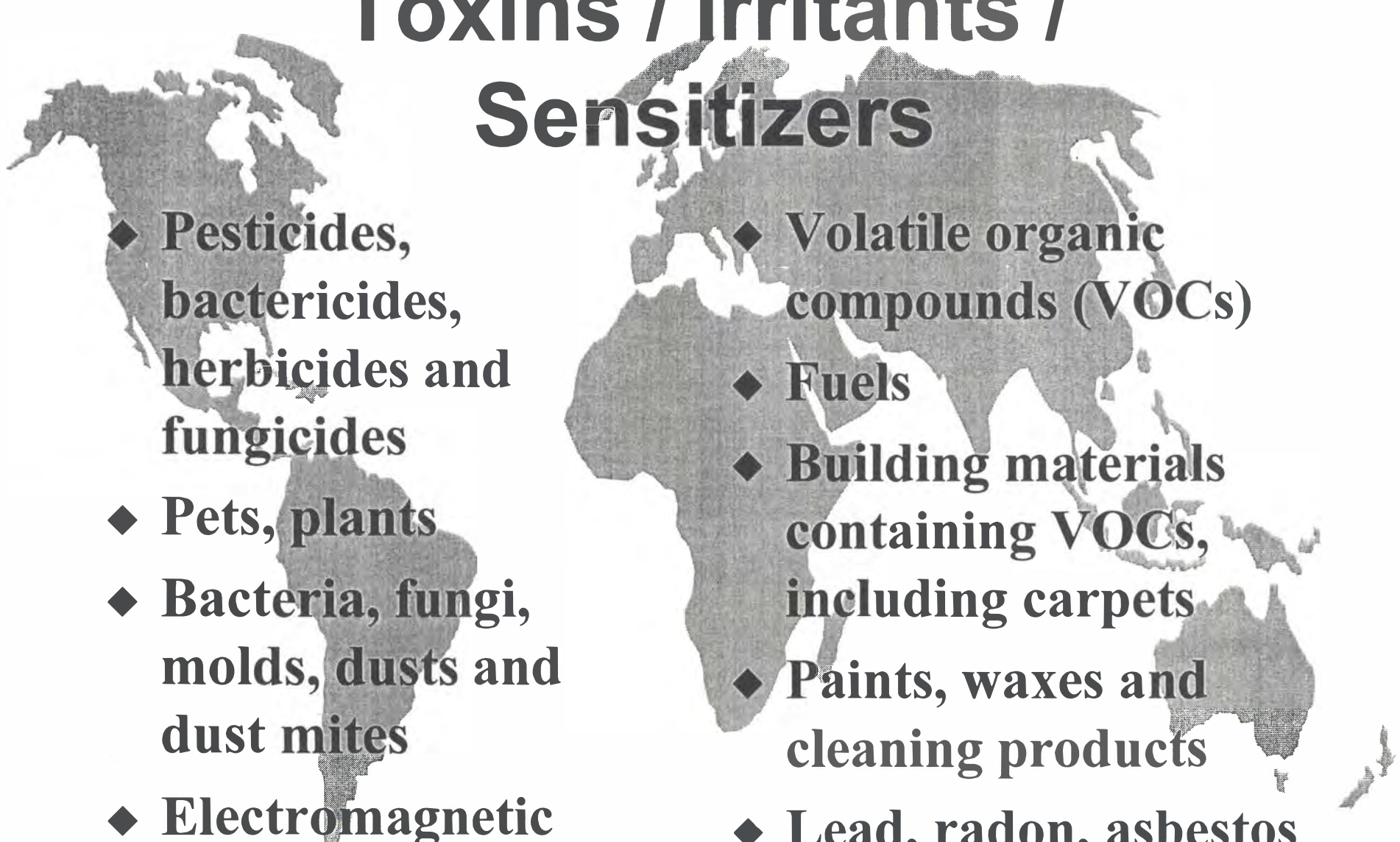
Dr. William J. Rea

First World Chair in Environmental Medicine

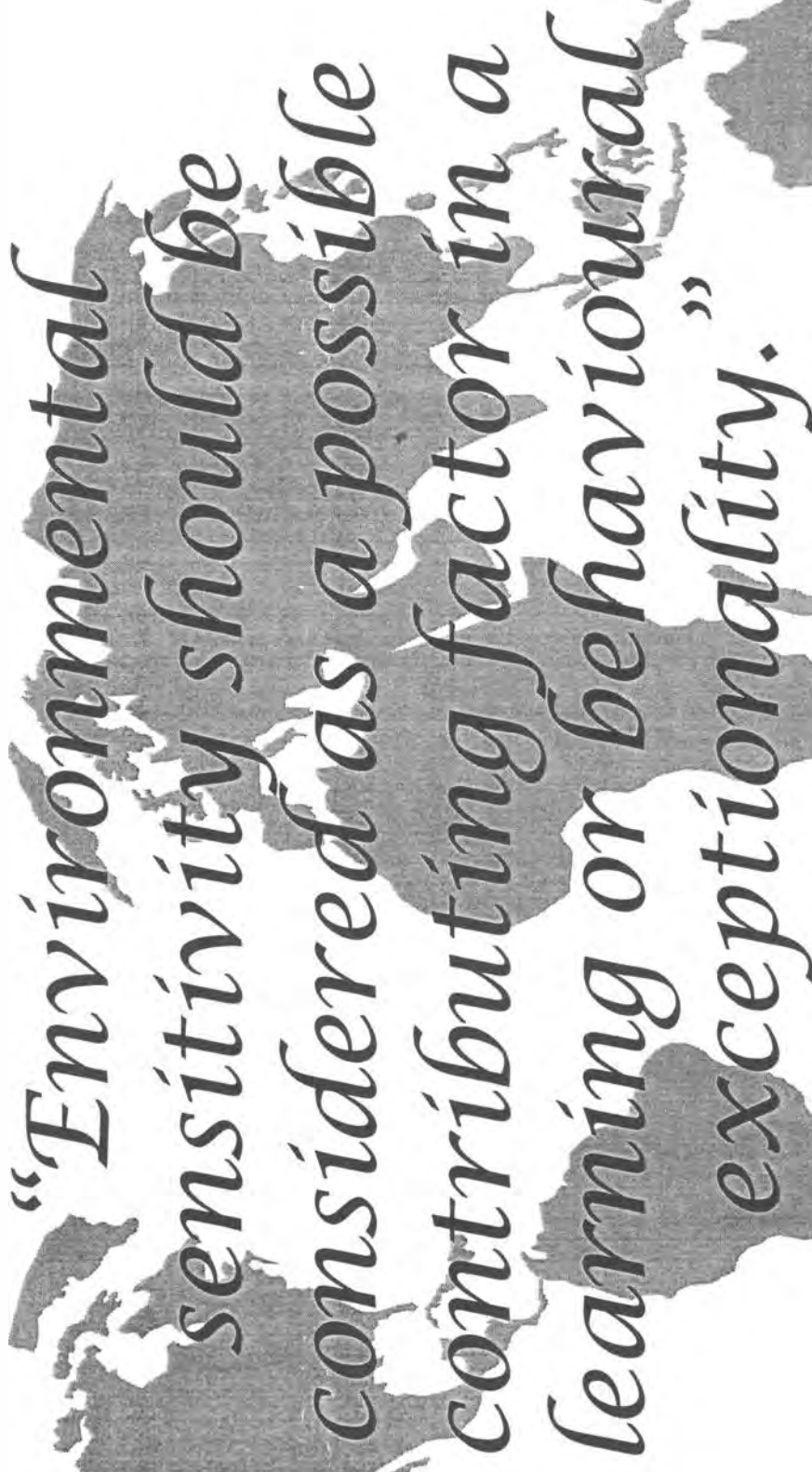
The “body burden” concept



Toxins / Irritants / Sensitizers

- 
- ◆ Pesticides, bactericides, herbicides and fungicides
 - ◆ Pets, plants
 - ◆ Bacteria, fungi, molds, dusts and dust mites
 - ◆ Electromagnetic radiation

- ◆ Volatile organic compounds (VOCs)
- ◆ Fuels
- ◆ Building materials containing VOCs, including carpets
- ◆ Paints, waxes and cleaning products
- ◆ Lead, radon, asbestos



*“Environmental
sensitivity should be
considered as a possible
contributing factor in a
learning or behavioural
exceptionality.”*

Marion Boyd

Ontario Minister of Education, 1991



Action plan for sensitive students

- ◆ **Improve indoor air quality**
- ◆ **Additional accommodations for sensitive students include:**
 - **suitable classroom location**
 - **carpet-free classrooms**
 - **openable windows**
 - **tolerable furniture and textbooks**
 - **low EMF equipment or computer shields**
 - **tolerable transportation**
- ◆ **Educate all staff, supply teachers and students**

Take action

The following (slides) indicate appropriate actions.



Maintenance and renovations




- ◆ **Schedule maintenance and renovation projects to minimize exposures**
- ◆ **Avoid construction, renovation and maintenance problems**



Floor coverings

- ◆ **Establish a no-carpeting policy**
- ◆ **Use smooth, non-porous and preferably seamless flooring throughout all schools for replacement and new construction projects**

A few of the chemicals found in carpets

- 
- ◆ 4-PC
 - ◆ Styrene
 - ◆ Toluene
 - ◆ Alkanes
 - ◆ 2,6-Di-*t*-butyl-4-methyl-phenol (BHT)
 - ◆ Caprolactam
 - ◆ Chlorinated butadiene
 - ◆ Chlorinated cyclohexene
 - ◆ Chlorinated butadienes
 - ◆ C₉-alkyl benzene
 - ◆ 2-Ethyl-1-hexanol

- ◆ Bis(2-ethylhexyl)-phthalate
- ◆ Hexamethylcyclotetrasiloxane
- ◆ Isobutyl hexadecanoate
- ◆ Isobutyl octadecanoate
- ◆ Methyl chloroform
- ◆ 2-Methyl-2,4-pentanediol
- ◆ 1,1'-Methylene bis-(4-isocyanobenzene)
- ◆ Octamethylcyclotetrasiloxane
- ◆ Propyl octadecanoate
- ◆ Triethyl phosphate
- ◆ Xylenes



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Allergy and Environmental Health Association

No-waxing policy




Cleaning and maintenance products

- ◆ **Use unscented, tolerable, non-toxic cleaning and maintenance products, such as baking soda and diluted vinegar**

No Scents makes Good Sense

Avoid:

- ◆ perfume
- ◆ cologne
- ◆ after-shave
- ◆ scented personal care products (most are)
- ◆ scented soaps (most are)
- ◆ scented laundry detergents (most are)
- ◆ ALL fabric softeners



Openable windows in all classrooms

- ◆ **Reassign windowless classrooms for non-student uses**
- ◆ **Maximize the use of windows for natural light and fresh air in new and retrofit projects**
- ◆ **All students and staff benefit significantly from fresh air and natural light**

Ventilation

ASHRAE Standard 62-1989

**accepts adverse health effects for
20%
of a healthy adult population**

Ventilation systems



- ◆ Upgrade and maintain ventilation systems
- ◆ Provide direct source exhaust for all pollutant sources

Environmental agents can affect:

- ◆ **learning**
- ◆ **health**
- ◆ **behaviour**
- ◆ **concentration**
- ◆ **attention**
- ◆ **vision**



**By working together,
educators and parents
can make a difference.**